DBLOG - Snapshot Function

The snapshot function provides detailed information on one particular Adabas command, DL/I call or SQL statement.

Below is information on the snapshot function for

- Adabas Commands
- DL/I Calls
- SQL Statements

Snapshot Function - Adabas Commands

This snapshot function interrupts program execution after executing the first Adabas command that matches the selection criteria specified on the DBLOG Menu. The Snapshot Report (example below) generated for the specified Adabas command is displayed immediately after program interruption.

The snapshot function automatically logs **all** Adabas buffers. Therefore, you do not have to mark any of the optional buffers on the DBLOG Menu before you start the snapshot function. The default Snapshot Report displays the Adabas control block (CB).

Below is information on:

- Invoking Snapshot - Adabas Commands
- Displaying Buffers on the Snapshot Report

Invoking Snapshot - Adabas Commands

To invoke the Snapshot Report screen for Adabas commands

- On the DBLOG Menu, specify an Adabas command and additional criteria, if desired, and enter Function Code **S**.
  The message "DBLOG snapshot facility started now" is displayed.
- Execute a Natural program which contains the Adabas command specified on the DBLOG Menu.
  The program stops executing and the Snapshot Report for Adabas commands is displayed as shown in the example below:

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```
16:36:39             ***** NATURAL TEST UTILITIES *****              2002-03-11
                             - Snapshot Report -

Command Code : L3            Command ID   :  ??? 00200101 File Number  : 013C
Response Code:      0        ISN          :          1300
ISN Low Limit: 00000000      ISN Quantity :             0
FB Length    : 0009          RB Length    : 0014          SB Length    : 0008
VB Length    : 0014          IB Length    : 0000          Com. Option 1:
Com. Option 2: V             Additions 1  : AE]?          Additions 2  :  ? ?
Additions 3  :               Additions 4  :
Global FID   : 0000000000000000 Command Time : 00000019 Pgm: SAGTEST  Lin: 0020
Control Block
0000 * 30D5D3F3 00200101 013C0000 00000514 * ?NL3 ?????    ?? * 0000
0010 * 00000000 00000000 00090014 00080014 *          ? ? ? ? * 0010
0020 * 000000E5 C1C5BBCA 40404040 00120014 *    VAE]?     ? ? * 0020
0030 * 00000000 00000000 00000000 00000000 *                  * 0030
0040 * 00000000 00000000 00000019 00000000 *            ?     * 0040
0050 * 00000000 00000000 00000000 00000000 *                  * 0050
0060 * 00000000 00000000 00000000 00000000 *                  * 0060
0070 * 00000000 00000000 00000000 00000000 *                  * 0070

Command ===> CB_____________________________________________________________
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help        Exit  CB    FB    RB     -     +    SB    VB    IB    Canc
```

Displaying Buffers on the Snapshot Report

The Snapshot Report shows the Adabas control block (CB) by default. To display different Adabas buffers and page up or down the screen, choose any of the direct commands or PF keys listed below:

PF Key	Direct Command	Buffer
PF4	CB	Displays the Control Block. This is the default.
PF5	FB	Displays the Format Buffer.
PF6	RB	Displays the Record Buffer.
PF7	-	Scrolls up the screen to display long buffers logs that extend beyond the terminal screen.
PF8	+	Scrolls down the screen to display long buffers logs that extend beyond the terminal screen.
PF9	SB	Displays the Search Buffer.
PF10	VB	Displays the Value Buffer.
PF11	IB	Displays the ISN Buffer.

Snapshot Function - DL/I Calls

This snapshot function generates the Snapshot Report (example below) of the first DL/I call that matches the selection criteria specified on the DBLOG Menu. A snapshot does not interrupt the program flow. The snapshot data are kept in the Natural debug buffer to be displayed only if the user enters the appropriate DBLOG command as described below.

Below is information on:

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Invoking Snapshot - DL/I Calls

To invoke the Snapshot Report screen for DL/I calls

- On the DBLOG Menu, specify a DL/I call and additional criteria, if desired, and enter Function Code **S**.
  The message "DBLOG snapshot facility started now" is displayed.
- Execute a Natural program which contains the DL/I call specified on the DBLOG Menu.
  (Log data are written to the Natural debug buffer.)
- Display the snapshot data:
  In the command line, enter TEST DBLOG D.
  Or, on the DBLOG Menu, enter Function Code **E**.
  The Snapshot Report for DL/I Calls is displayed as shown in the example below:

```
16:33:27                ***** NATURAL DBA Utility *****              2002-03-11
User SAG                     - Snapshot Report -                Library SAG
         DL/I Call ......... : GHNP           Pgm: SAGTEST     Line: 0110
         PSB Name .......... : PBNDL01
         PCB Number ........ : 1              out of 3
         Contents of this PCB                 Contents of NDB/NSB
         Database Name ..... : DNDL01         DBD is physical
         Segment Level ..... : 2              Segment Level .. : 2
         Statuscode ........ : BLANK
         Processing Options  : A
         Segment Name ...... : OFFERING       DBId/Fnr ....... : 246   12
                                              Min/Max Length . : 41    41
         Length of KFBA .... : 9
         Number of SENSEGs . : 10  <WARNING>  Number of SENSEGs: 5
         Number of SSA's ... : 2

IOA:     Char :  ?010791DARMSTADT
         Zone : 02FFFFFFCCDDEECCE4444444444444444444444444400000000000000
         Digit: 090107914194231430000000000000000000000000000000000000000

KFBA:    Char : 004010791
         Zone : FFFFFFFFF0000000000000000000000000000000000000000000000000
         Digit: 004010791000000000000000000000000000000000000000000000000
MORE

SSA 1 :  Char : COURSE  *- (COURSEN  =004)
         Zone : CDEDEC445644CDEDECD447FFF5000000000000000000000000000000
         Digit: 36492500C00D364925500E004D000000000000000000000000000000

SSA 2 :  Char : OFFERING*F-
         Zone : DCCCDCDC5C64000000000000000000000000000000000000000000000
         Digit: 66659957C60000000000000000000000000000000000000000000000
```

Snapshot Report Information - DL/I Calls

The following information is provided on the Snapshot Report screen for DL/I calls:

- the PSB (Program Specification Block) Name
- the PCB (Program Communication Block) Number
- the PCB Mask, which consists of:
  - DBD (Database Description) Name
  - Segment Level Number

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  - Status Code
  - Processing Options
  - Segment Name
  - Length of the Key Feedback Area
  - Number of Sensitive Segments
  - Key Feedback Area
  - Number of SSAs (Segment Search Argument)
- all SSAs
- the I/O Area

The first 120 bytes of the Key Feedback Area, of all SSAs (up to 15 SSAs are possible) and of the I/O area are displayed, both in decimal and hexadecimal format.

The DBD Name in the PCB is used to read the corresponding NDB (Natural equivalent of DBD) from the Natural FDIC system file. In this NDB, the segment whose name is given in the PCB is located and its minimum/maximum length and segment level number are displayed. The segment level number should match the number in the PCB. In this way, it is possible to detect inconsistencies between Natural NDBs and DL/I DBDs.

The PSB name is used to read the corresponding NSB (Natural equivalent of PSB) from the Natural FDIC system file. From this NSB, the number of sensitive segments is displayed. This number should match the number in the PCB. In this way, it is possible to detect inconsistencies between Natural NSBs and DL/I PSBs.

The snapshot function checks whether the DL/I DBD/PSB and the Natural NDB/NSB contain the same values in the fields "Level Number" and "Number of SENSEGs". The same values, however, do not necessarily ensure that the DL/I DBD/PSB and the Natural NDB/NSB are fully consistent.

In the example above, the values in the "Number of SENSEGs" (Sensitive Segment Type) fields are different, because the Natural NATPSB procedure was not executed after the PSB had been changed by the DL/I PSBGEN procedure.

Snapshot Function - SQL Statements

The snapshot function generates the Snapshot Report (example below) of the first SQL statement that matches the selection criteria specified on the DBLOG Menu. A snapshot does not interrupt the program flow.

Unlike the statements displayed with the DBLOG Trace function, the snapshot shows the statement in its entirety (limited to 13 lines).

The snapshot data are kept in the Natural debug buffer to be displayed only if the user enters the appropriate DBLOG command as described below.

Below is information on:

- Invoking Snapshot - SQL Statements
- Snapshot Report Information - SQL Statements

Invoking Snapshot - SQL Statements

To invoke the Snapshot Report screen for SQL statements

- On the DBLOG Menu, specify an SQL statement and additional criteria, if desired, and enter Function Code **S**. The message "DBLOG snapshot facility started now" is displayed.
- Execute a Natural program which contains the SQL statement specified on the DBLOG Menu. (Log data are written to the Natural debug buffer.)
- Display the snapshot data:
  In the command line, enter TEST DBLOG Q.

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Or, on the DBLOG Menu, enter Function Code **E**.
The Snapshot Report for SQL statements is displayed as shown in the example below:

```
10:59:28              ***** NATURAL Test Utilities *****            2002-04-08
User SAG                      - Snapshot Report -              Library SAG

CU SN M Typ R SQLC/W     Library  Program  Store Clock Value   Line LV CID(Hex)
01 01 D DB2              SAG      SAGTEST  2002/04/03 14:23:06 0150 01 01500101

SQL Statement
SELECT EMPNO,FIRSTNME,MIDINIT,LASTNAME,EDLEVEL,SALARY FROM DSN8510.EMP WHERE EM
PNO> '000300' FOR UPDATE OF EDLEVEL



Command ===>
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help  Print Exit                                                  Canc
```

Snapshot Report Information - SQL Statements

The following information is provided on the Snapshot Report screen for SQL statements:

Item	Explanation
CU	Cursor number.
SN	Internal statement number.
M	Mode: **D** for dynamic or **S** for static.
Typ	Database type: DB2 or SQL/DS.
R	Only applicable if the Natural File Server for DB2 is in use. Indicates by an asterisk in front of the corresponding statement that a reselection has been performed; if not, the column is left blank. See also Concept of the File Server in Natural File Server for DB2 (documentation Natural for DB2).
SQLC/W	Either the SQL return code in the SQLCODE field of the SQLCA, or the warning in the SQLWARN0 field of the SQLCA if SQLCODE is 0.
Library	The library where the Natural program with the logged statement was cataloged.
Program	The name of the Natural program which contains the logged statement.
Store Clock Value	The time stamp of the Natural program which contains the logged statement.
Line	The source code line number of the logged statement.
LV	The call level of the Natural program which contains the logged statement.
CID (hex)	The command ID of the logged statement in hexadecimal format.

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